

**BY ORDER OF THE COMMANDER  
434TH AIR REFUELING WING**

**434TH AIR REFUELING WING  
INSTRUCTION 21-106**



**4 JANUARY 2012**

***Maintenance***

***TEST MEASUREMENT EQUIPMENT AND  
DIAGNOSTIC EQUIPMENT CALIBRATION***

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*. It establishes procedures for work centers requiring Test Measurement Equipment and Diagnostic Equipment (TMDE) and calibration support from the Precision Measurement Equipment Laboratory (PMEL) at Wright-Patterson AFB, OH (WPAFB). It applies to all 434th Air Refueling Wing (ARW) work centers requiring TMDE, and PMEL support. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Form 847s from field through Major Command (MAJCOM) publication/forms managers. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afrims/afrims>. The use of the name or rank of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

***SUMMARY OF CHANGES***

*This is a new publication 434ARWI21-106, Test Measurement Equipment and Diagnostic Equipment Calibration and replaces rescinded 434ARWI21-106 dated 1 February 2008.*

**1. Special Terms.** PMEL Monday, PMEL Tuesday, PMEL Wednesday, PMEL driver and PMEL rider, only during weeks when PMEL runs are scheduled.

**2. Responsibilities.**

2.1. Wing Commander. The 434 ARW Commander appoints two individuals, a primary and an alternate, to serve as wing PMEL monitors. The PMEL monitors coordinate on-site calibration of TMDE and serve as points of contact (POC) for PMEL related questions at Grissom ARB. The PMEL monitor appointments are disseminated to all organizations within the 434 ARW Wing via official e-mail to all TMDE owning workcenters.

2.1.1. Ensure adequate facilities are provided to support the Wing PMEL program.

2.2. Wing PMEL Monitors. The wing PMEL monitors perform the following functions:

2.2.1. Act as a focal point for PMEL related questions within the 434 ARW.

2.2.2. Maintain a list of equipment, per paragraph 2.5.1, requiring "on-site" calibration.

2.2.3. Coordinate on-site calibration requests between owning work centers and WPAFB PMEL laboratory.

2.2.4. PMEL training will be provided through Wright-Patterson PMEL CoP. Upon completion monitors need to print certificate and turn it into Grissom PMEL coordinator.

2.3. 434 LRS/LGRR. This office is the focal point for coordination of support agreements between 434 ARW agencies and WPAFB.

2.4. 434 ARW/FM. This office is responsible for advising the affected units as to the proper funding and forms to utilize when procuring PMEL support from WPAFB. Each unit is responsible for funding their own PMEL requirements and documenting expenditures.

2.5. Squadron Commanders/Superintendents. The squadron commanders/superintendents within the 434 ARW at Grissom ARB solicit volunteers from TMDE customers within their squadron to perform PMEL rider duties on a rotating monthly basis. PMEL riders can be either management or bargaining unit employees. Squadron assignments for PMEL riders are shown in [Attachment 1](#). PMEL riders must possess: (1) secret security clearances and (2) valid state drivers licenses.

2.6. PMEL drivers perform the following:

2.6.1. Sign out the PMEL vehicle at vehicle operations each PMEL Monday.

2.6.2. Assist the PMEL rider with the loading and unloading of TMDE.

2.6.3. Drive the PMEL delivery vehicle to and from WPAFB.

2.7. PMEL riders perform the following:

2.7.1. Receive TMDE and WPAFB PMEL receipts from the 434 ARW PMEL Equipment room and load TMDE equipment into the PMEL vehicle between 1300 and 1500 hours on PMEL Monday. 434 ARW PMEL Equipment room is located in building 427, room 1201.

2.8. 434 PMEL monitor notifies the PMEL rider of any classified equipment requiring pickup. Classified equipment is picked up at the owning work center prior to departure to WPAFB PMEL Tuesday morning. PMEL riders ensure that they receive a security briefing from the owning work center prior to departure to WPAFB. The classified equipment hand receipts are placed in the PMEL receipt folder provided by the PMEL Equipment room.

2.9. After the PMEL vehicle is loaded for the trip to WPAFB, it will proceed directly to Building 420 (Vehicle Maintenance) on Grissom where it will be stored inside overnight for security of the equipment.

2.9.1. Deliver TMDE and equipment manifest directly to WPAFB on PMEL Tuesdays.

2.9.2. Receive TMDE and any correspondence from WPAFB PMEL at the time designated by the WPAFB PMEL scheduler on PMEL Tuesdays. Riders ensure that PMEL receipts are used for pick-up and delivery of TMDE at WPAFB PMEL. The PMEL generated hand receipts are maintained in the PMEL receipt folder by 434 ARW PMEL Equipment room.

2.9.3. PMEL riders comply with all the instructions contained in the PMEL vehicle continuity folder.

2.9.4. Upon return to Grissom ARB, the PMEL riders deliver TMDE and PMEL receipt folder to the 434 ARW PMEL Equipment room in building 427, room 1201. Classified equipment is delivered directly to the owning work center. The PMEL vehicle is returned to vehicle operations, building 420 on PMEL Tuesdays, if possible or by 0900 hours on PMEL Wednesday.

2.10. Work Center Responsibilities:

2.10.1. Notify the wing PMEL monitors, in writing, of all TMDE requiring on-site calibration. Information provided to the PMEL monitors includes the following:

2.10.1.1. Equipment ID number.

2.10.1.2. Equipment nomenclature.

2.10.1.3. Equipment National Stock Number (NSN) and part number.

2.10.1.4. Equipment location.

2.10.1.5. Calibration interval.

2.10.1.6. Calibration due date.

2.10.1.7. Work center ID number.

2.10.2. Appoint a primary and alternate TMDE coordinator and notify PMEL, through the 434 ARW PMEL Monitor, 434 AMXS/MXAC, by letter. Inform the 434 ARW PMEL Monitor of any changes to the provided information. Provide the following information:

2.10.2.1. Full name and rank of primary and alternate TMDE coordinators.

2.10.2.2. Duty phone number, work center number, name of work center, and organizational address.

2.10.3. Retain one copy of the TMDE appointment letter in the Owning Work Center (OWC) PMEL folder.

2.11. TMDE Coordinator Duties. TMDE coordinators are responsible for the following:

2.11.1. Establishing a TMDE folder that includes the following:

2.11.1.1. A current copy of this instruction.

- 2.11.1.2. Appointment letter for primary and alternate TMDE coordinators.
  - 2.11.1.3. OWC master ID listing.
  - 2.11.1.4. OWC 90 day forecast.
  - 2.11.1.5. OWC's hand receipts (generated by 434 AMXS/MXAC) for items in PMEL.
  - 2.11.1.6. Any customer handout(s) provided by PMEL.
  - 2.11.1.7. Proof of TMDE Monitor training.
- 2.11.2. Reviewing the 90 day forecast and master ID listing for accuracy. Notifying WPAFB PMEL, through 434 ARW PMEL Monitor, of any error or corrections and requesting corrected listings. Upon review the Coordinator will return a signed copy of the Master Listing to the 434 PMEL Equipment section. This is required as soon as possible and, at the latest, by the following PMEL Tuesday Run.
- 2.11.3. Monitoring, listing, and ensuring all TMDE due calibration is delivered to the 434 ARW PMEL Equipment room, building 427, room 1201 or other specified location, between 0800 - 1000 hours each PMEL Monday. Work center TMDE meets the following standards:
- 2.11.3.1. The TMDE is clean, has connectors properly attached, all exposed parts protected, and the correct fuses installed.
  - 2.11.3.2. The TMDE filters are clean.
  - 2.11.3.3. The TMDE contains all ancillary equipment (e.g. preamplifiers, power supplies, adapters, cables, or probes) needed for calibration.
  - 2.11.3.4. For initial calibration or equipment in need of repair ensure and AFTO Form 350, **Repairable Item Processing Tag** is properly completed and attached to the item.
  - 2.11.3.5. Do not send common power cords with TMDE.
  - 2.11.3.6. Plug-in modules and other TMDE that are a part of a piece of test equipment but calibrated separately have an AFTO Form 350 tag attached to it indicating the type of equipment that the module is used with.
  - 2.11.3.7. Ensure each piece of TMDE has its own case if needed, do not group items into one case.
- 2.11.4. Initiate priority/emergency calibration requests as necessary. 434 ARW PMEL Monitor is notified if the TMDE requires priority/emergency handling. A letter is required to justify and expedite calibration.
- 2.11.5. Ensure a hand receipt is received for each item delivered to the 434 ARW PMEL Equipment room, building 427, and room 1201.
- 2.11.6. After notification by 434 ARW PMEL Monitor, TMDE coordinators pick up equipment between the hours of 0800 and 1100 on Wednesday. If Wednesday is a holiday, pick up the TMDE on the first duty day following the holiday. Individuals picking up equipment must bring their copies of the hand receipts. In the event the hand

receipts have been lost, the customer must sign for the equipment before it can be released no exceptions.

2.11.6.1. In the event that equipment has been identified as being “limited calibration”, the owning workcenter MUST verify the Limited calibration specifications and sign the AFTO form 398 or AFTO form 99 prior to equipment being released no exceptions.

2.12. 434 ARW PMEL Monitors:

2.12.1. Serves as a collection point for TMDE going to and coming from WPAFB PMEL.

2.12.2. Accepts TMDE from TMDE coordinators between 0800-1000 hours on each PMEL Monday. No TMDE is accepted after 1000 on PMEL Monday.

2.12.3. Issues hand receipts to TMDE coordinators for TMDE going to PMEL.

2.12.4. Notifies the PMEL rider of any classified equipment requiring pick-up at any owning work center.

2.12.5. Issues TMDE, any correspondence from work centers, and the PMEL receipt folder to the PMEL riders.

2.12.6. After receiving equipment on PMEL Monday's prints out and faxes the equipment listing (TMDE Equipment being delivered that trip) to the WPAFB PMEL section.

2.12.7. Receives TMDE, correspondence, and PMEL receipt folder from PMEL riders upon their return from WPAFB PMEL.

2.12.8. Issues TMDE to work center representatives from 0800 - 1100 hours each PMEL Wednesday unless the Wednesday is a holiday. In this case, TMDE is issued on the first duty day following the holiday.

2.12.9. Forwards WPAFB PMEL correspondence to appropriate work centers.

2.13. 434 LRS/LGRVO / BOS Contractor, Vehicle Operation Responsibilities:

2.13.1. Provide the PMEL delivery vehicle and a qualified driver.

2.13.2. Establish the PMEL driver continuity folder that is issued with the PMEL delivery vehicle each week. The continuity folder contains as a minimum: maps of Indiana and Ohio, a map of WPAFB, OH, safety checklist, procedures for vehicle breakdowns, accidents, hijacking and theft, and procedures for safeguarding of classified equipment.

2.13.3. Ensure approval is received from the Accountable Officer (AO) and the Administrative Contracting Officer (ACO) for the annual scheduled PMEL runs prior to departure of the first PMEL run of the fiscal year, and any changes to that schedule thereafter.

2.14. On-site Calibration. As many items as possible will be calibrated on-site, they will include items of TMDE identified as being too large or too fragile to move. Coordinate on-

site calibration through the wing PMEL monitor. WPAFB will determine all items that can be on-site calibrated or are non-mobile ~~or~~ and require Local Calibration.

**3. Correspondence.** All correspondence between WPAFB PMEL and organizations within the 434 ARW at Grissom ARB is processed through the 434 ARW PMEL section. The PMEL section ensures that all correspondence is routed to the appropriate agencies.

**4. TMDE Coordinator Training:**

4.1. TMDE coordinators must receive training before assuming their duties and on an annual basis. Training sessions are conducted by the 434 ARW PMEL monitors or squadron representatives. Contact the wing PMEL monitor or squadron representative for an appointment.

4.2. Document training on an AF Form 2426, **Training Request and Completion Notification**. This form serves as the certificate of attendance and is placed in the work center TMDE folder. Work center supervisors ensure PMEL training is input into G081, if applicable.

**5. LOCAL CALIBRATION.**

5.1. WPAFB local calibration technicians will use the designated facility located in Bldg, 427 room 1201 to perform local calibration on scheduled cycles. A WPAFB technician and the Wing's PMEL coordinator will perform an inspection together of the work area prior to start of any calibration to ensure area is clean and orderly. After the work has been completed, the area will be inspected again by both parties to ensure work area is left in the same original condition. 434 ARW PMEL's coordinator will be responsible for locking up the area. Appropriate power supplies and equipment will be provided by the 434 ARW PMEL section and all additional requests will be made in a timely manner and coordinated through the Wing PMEL coordinator and the facility manager for Bldg 427.

WILLIAM T. CAHOON, Col, USAFR  
Commander

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****Abbreviations and Acronyms***

**ACO**—Administrative Contracting Officer  
**AO**—Accountable Officer  
**AFMAN**—Air Force Manual  
**AFPD**—Air Force Policy Directive  
**AFTO**—Air Force Technical Order  
**AMXS**—Air Maintenance Squadron  
**ARW**—Air Refueling Wing  
**BOS**—Data Monitor Systems, Inc.  
**FM**—Finance Management  
**ID**—Identification  
**LRS**—Logistics Readiness Squadron  
**LGRR**—Logistics Plans  
**LGRVO**—Vehicle Operations  
**MXAC**—Specialist Flight  
**OWC**—Owning Work Center  
**PMEL**—Precision Measurement Equipment Laboratory  
**POC**—Point Of Contact  
**RDS**—Records Disposition Scheduled  
**TMDE**—Test Measurement Equipment and Diagnostic Equipment  
**T.O.**—Technical Order  
**WPAFB**—Wright-Patterson Air Force Base

***References***

AFPD 21-1; *Air and Space Maintenance*.  
AFMAN 33-363; Management of Records

***Terms***

**G081**— IMDS for Mobility

**Attachment 2****ASSIGNMENT OF PMEL RIDERS BY SQUADRON**

<b><u>ORGANIZATION</u></b>	<b><u>MONTHS</u></b>
Support Comm	OCT-FEB-JUN
MXS	NOV-MAR-JUL
AMXS	DEC-APR-AUG
AMXS	JAN-MAY-SEP